NiceZyme View of ENZYME: EC 2.6.1.1

Official Name

Aspartate transaminase.

Alternative Name(s)

Aspartate aminotransferase.

Glutamic--aspartic transaminase.

Glutamic--oxaloacetic transaminase.

Transaminase A.

Reaction catalysed

L-aspartate + 2-oxoglutarate <=> oxaloacetate + L-glutamate

Cofactor(s)

Pyridoxal-phosphate.

Comment(s)

- Also acts on L-tyrosine, L-phenylalanine and L-tryptophan.
- This activity can be formed from EC 2.6.1.57 by controlled proteolysis.

Cross-references

Biochemical Pathways; map number(s)	F5 ; G7 ; I4 ; I7
PROSITE	PDOC00098
BRENDA	2.6.1.1
PUMA2	2.6.1.1
PRIAM enzyme-specific profiles	2.6.1.1
Kyoto University LIGAND chemical database	2.6.1.1
IUBMB Enzyme Nomenclature	2.6.1.1
IntEnz	2.6.1.1
MEDLINE	Find literature relating to 2.6.1.1
MetaCyc	2.6.1.1

UniProtKB/Swiss-Prot	P46643, AAT1_ARATH; P53001, AAT1_BACSU; P28011, AAT1_MEDSA; Q60317, AAT1_METJA; P46645, AAT2_ARATH; P39643, AAT2_BACSU; Q58097, AAT2_METJA; P46644, AAT3_ARATH; P46646, AAT4_ARATH; P46248, AAT5_ARATH; Q02635, AATA_RHIME; P58350, AATB1_RHIME; Q06191, AATB2_RHIME; P33097, AATC_BOVIN; Q22067, AATC_CAEEL; P00504, AATC_CHICK; P28734, AATC_DAUCA; P08906, AATC_HORSE; P17174, AATC_HUMAN; P05201, AATC_MOUSE; P37833, AATC_ORYSA; P00503, AATC_PIG; P12343, AATC_RABIT; P13221, AATC_RAT; P23542, AATC_YEAST; P12344, AATM_BOVIN; P00508, AATM_CHICK; P08907, AATM_HORSE; P00505, AATM_HUMAN; P26563, AATM_LUPAN; P05202, AATM_MOUSE; P00506, AATM_PIG; P12345, AATM_RABIT; P00507, AATM_RAT; Q01802, AATM_YEAST; O67781, AAT_AQUAE; Q59228, AAT_BACST; P23034, AAT_BACY2; P00509, AAT_ECOLI; P44425, AAT_HAEIN; P52069, AAT_METEX; P63499, AAT_MYCBO; P63498, AAT_MYCTU; P72173, AAT_PSEAE; Q9V0L2, AAT_PYRAB; O58489, AAT_PYRHO; O93744, AAT_PYRKO; O86459, AAT_RHILP; Q92JE7, AAT_RICCN; Q9ZE56, AAT_RICPR; Q56114, AAT_SALTI; P58661, AAT_SALTY; P36692, AAT_STRGR; Q60013, AAT_STRVG; Q4J8X2, AAT_SULAC; P14909, AAT_SULSO; Q972A2, AAT_SULTO; Q55128, AAT_SYNY3; O33822, AAT_THEAQ; Q9X0Y2, AAT_THEMA; Q56232, AAT_THET8;

View entry in original ENZYME format

All UniProtKB/Swiss-Prot entries referenced in this entry, with possibility to download in different formats, align etc.
All ENZYME / UniProtKB/Swiss-Prot entries corresponding to 2.6.1.-
All ENZYME / UniProtKB/Swiss-Prot entries corresponding to 2.6.-.-
All ENZYME / UniProtKB/Swiss-Prot entries corresponding to 2.-.-.-

WEST Search History

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DATE: Friday, May 12, 2006

Hide?	Set Name	Query	Hit Count
		DB=PGPB,USPT,EPAB,JPAB,DWPI; PLUR=YES; OP=OR	
☐	L7	l1.clm. and (threonin$4).clm.	11
☐	L6	l1 and (Akhverdian or Savrasova or Kaplan or Lobanov or Kozlov).in.	13
☐	L5	L4 same (coli$2 or escherich$4 or glutamic$4 or corynefor$4)	79
☐	L4	L1 same (threonin$4)	166
☐	L3	L2 same (coli$2 or escherich$4 or glutamic$4 or corynefor$4)	133
☐	L2	L1 same (threonin$4 or lysin$4)	902
☐	L1	(aspartat$4 same aminotransferas$4) or aspc$2 or transaminase$4	8071

END OF SEARCH HISTORY

=> d his full

(FILE 'HOME' ENTERED AT 11:46:03 ON 12 MAY 2006)

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, ANTE, AQUALINE, AQUASCI, BIOENG, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CAPLUS, CEABA-VTB, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DISSABS, DRUGB, DRUGMONOG2, DRUGU, EMBAL, EMBASE, ...' ENTERED AT 11:46:16 ON 12 MAY 2006

SEA (ASPC? OR (ASPARTAT?(S)AMINOTRANSFERAS?) OR TRANSAMINAS?) A

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4 FILE AGRICOLA
7 FILE AQUASCI
7 FILE BIOENG
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59 FILE CABA
403 FILE CAPLUS
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190 FILE MEDLINE
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66 FILE SCISEARCH
120 FILE TOXCENTER
1705 FILE USPATFULL
133 FILE USPAT2
9 FILE WPIDS
9 FILE WPINDEX
1 FILE NLDB

L1 QUE (ASPC? OR (ASPARTAT?(S) AMINOTRANSFERAS?) OR TRANSAMINAS?) AND THREONI?

D RANK

FILE 'USPATFULL, GENBANK, CAPLUS, MEDLINE, USPAT2, TOXCENTER, BIOSIS, EMBASE, SCISEARCH, CABA' ENTERED AT 11:49:09 ON 12 MAY 2006

L2 3370 SEA (ASPC? OR (ASPARTAT?(S) AMINOTRANSFERAS?) OR TRANSAMINAS?) AND THREONI?

L3 832 SEA (ASPC? OR (ASPARTAT?(S) AMINOTRANSFERAS?) OR TRANSAMINAS?) (S) THREONI?

L4 390 SEA L3(S)(COLI? OR ESCHERICH? OR ENTEROBAC? OR GLUTAMICU? OR CORYNEFOR? OR BACTERI? OR BREVIBACTER?)

L5 372 DUP REM L4 (18 DUPLICATES REMOVED)

L6 372 FOCUS L5 1-

D TI L5 1-100
D TI L5 101-200
D TI L5 201-300
D TI L5 301-372
D IBIB ABS L5 1 13 17 36 53 72 76 98 100 104 106 110
D KWIC L5 104 110

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NEWS	3	JAN 17	Pre-1988 INPI data added to MARPAT
NEWS	4	FEB 21	STN AnaVist, Version 1.1, lets you share your STN AnaVist visualization results
NEWS	5	FEB 22	The IPC thesaurus added to additional patent databases on STN
NEWS	6	FEB 22	Updates in EPFULL; IPC 8 enhancements added
NEWS	7	FEB 27	New STN AnaVist pricing effective March 1, 2006
NEWS	8	MAR 03	Updates in PATDPA; addition of IPC 8 data without attributes
NEWS	9	MAR 08	X.25 communication option no longer available after June 2006
NEWS	10	MAR 22	EMBASE is now updated on a daily basis
NEWS	11	APR 03	New IPC 8 fields and IPC thesaurus added to PATDPAFULL
NEWS	12	APR 03	Bibliographic data updates resume; new IPC 8 fields and IPC thesaurus added in PCTFULL
NEWS	13	APR 04	STN AnaVist $500 visualization usage credit offered
NEWS	14	APR 12	LINSPEC, learning database for INSPEC, reloaded and enhanced
NEWS	15	APR 12	Improved structure highlighting in FQHIT and QHIT display in MARPAT
NEWS	16	APR 12	Derwent World Patents Index to be reloaded and enhanced during second quarter; strategies may be affected
NEWS	17	MAY 10	CA/CAplus enhanced with 1900-1906 U.S. patent records
NEWS	18	MAY 11	KOREAPAT updates resume

NEWS EXPRESS FEBRUARY 15 CURRENT VERSION FOR WINDOWS IS V8.01a, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 19 DECEMBER 2005. V8.0 AND V8.01 USERS CAN OBTAIN THE UPGRADE TO V8.01a AT http://download.cas.org/express/v8.0-Discover/

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=> index bioscience medicine
FILE 'DRUGMONOG' ACCESS NOT AUTHORIZED
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                                                           ENTRY    SESSION
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INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, ANTE, AQUALINE,
       AQUASCI, BIOENG, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CAPLUS,
       CEABA-VTB, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DISSABS, DRUGB,
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71 FILES IN THE FILE LIST IN STNINDEX

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=> s (aspc? or (aspartat?(s)aminotransferas?) or transaminas?) and threoni?
          4   FILE AGRICOLA
          7   FILE AQUASCI
          7   FILE BIOENG
        102   FILE BIOSIS
         22   FILE BIOTECHABS
         22   FILE BIOTECHDS
         23   FILE BIOTECHNO
         59   FILE CABA
        403   FILE CAPLUS
          4   FILE CEABA-VTB
  20 FILES SEARCHED...
          2   FILE DDFB
          2   FILE DDFU
         82   FILE DGENE
          5   FILE DISSABS
          2   FILE DRUGB
          4   FILE DRUGU
          1   FILE EMBAL
         71   FILE EMBASE
         34   FILE ESBIOBASE
          5   FILE FSTA
        521   FILE GENBANK
          1   FILE HEALSAFE
  36 FILES SEARCHED...
         15   FILE IFIPAT
          9   FILE JICST-EPLUS
         28   FILE LIFESCI
        190   FILE MEDLINE
          1   FILE NTIS
          1   FILE OCEAN
         33   FILE PASCAL
          1   FILE PROUSDDR
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        66   FILE SCISEARCH
       120   FILE TOXCENTER
      1705   FILE USPATFULL
       133   FILE USPAT2
  63 FILES SEARCHED...
         9   FILE WPIDS
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  37 FILES HAVE ONE OR MORE ANSWERS,    71 FILES SEARCHED IN STNINDEX

L1   QUE (ASPC? OR (ASPARTAT?(S) AMINOTRANSFERAS?) OR TRANSAMINAS?) AND THREONI
     ?

=> d rank
F1        1705   USPATFULL
F2         521   GENBANK
F3         403   CAPLUS
F4         190   MEDLINE
F5         133   USPAT2
F6         120   TOXCENTER
F7         102   BIOSIS
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F9          71   EMBASE
F10         66   SCISEARCH
F11         59   CABA
F12         34   ESBIOBASE
F13         33   PASCAL
F14         28   LIFESCI
F15         23   BIOTECHNO
F16         22   BIOTECHABS
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F18         15   IFIPAT
F19          9   JICST-EPLUS
F20          9   WPIDS
F21          9   WPINDEX
F22          7   AQUASCI
F23          7   BIOENG
F24          5   DISSABS
F25          5   FSTA
F26          4   AGRICOLA
F27          4   CEABA-VTB
F28          4   DRUGU
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F30          2   DDFU
F31          2   DRUGB
F32          1   EMBAL
F33          1   HEALSAFE
F34          1   NTIS
F35          1   OCEAN
F36          1   PROUSDDR
F37          1   NLDB


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=> s (aspc? or (aspartat?(s)aminotransferas?) or transaminas?) and threoni?
L2        3370 (ASPC? OR (ASPARTAT?(S) AMINOTRANSFERAS?) OR TRANSAMINAS?) AND
               THREONI?

=> s (aspc? or (aspartat?(s)aminotransferas?) or transaminas?) (s) threoni?
L3         832 (ASPC? OR (ASPARTAT?(S) AMINOTRANSFERAS?) OR TRANSAMINAS?) (S)
               THREONI?

=> s l3(s)(coli? or escherich? or enterobac? or glutamicu? or corynefor? or
bacteri? or brevibacter?)
L4         390 L3(S)(COLI? OR ESCHERICH? OR ENTEROBAC? OR GLUTAMICU? OR CORYNE
               FOR? OR BACTERI? OR BREVIBACTER?)

=> dup rem l4
DUPLICATE IS NOT AVAILABLE IN 'GENBANK'.
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L5          372 DUP REM L4 (18 DUPLICATES REMOVED)

=> focus l5
FOCUS NOT AVAILABLE IN 'GENBANK'.
PROCESSING COMPLETED FOR L5
ANSWERS FROM NON FOCUS FILES PUT AT END OF ANSWER SET.
L6          372 FOCUS L5 1-

=> d ti l5 1-100

L5   ANSWER 1 OF 372  USPATFULL on STN
TI     Method for producing L-amino acids using bacteria of the
       Enterobacteriaceae family

L5   ANSWER 2 OF 372  USPATFULL on STN
TI     Corynebacterium glutamicum genes encoding metabolic pathway proteins

L5   ANSWER 3 OF 372  USPATFULL on STN
TI     Molecular toxicology modeling

L5   ANSWER 4 OF 372  USPATFULL on STN
TI     Corynebacterium glutamicum genes encoding stress, resistance and
       tolerance proteins
```

L5 ANSWER 5 OF 372 USPATFULL on STN
TI Sequence-determined DNA fragments and corresponding polypeptides encoded thereby

L5 ANSWER 6 OF 372 USPATFULL on STN
TI Polynucleotides encoding polypeptides involved in amino acid biosynthesis in Methylophilus methylotrophus

L5 ANSWER 7 OF 372 USPATFULL on STN
TI Corynebacterium glutamicum genes encoding proteins involved in homeostasis and adaptation

L5 ANSWER 8 OF 372 USPATFULL on STN
TI Corynebacterium glutamicum genes encoding metabolic pathway proteins

L5 ANSWER 9 OF 372 USPATFULL on STN
TI Methods and compositions for amino acid production

L5 ANSWER 10 OF 372 USPATFULL on STN
TI Corynebacterium glutamicum genes encoding proteins involved in membrane synthesis and membrane transport

L5 ANSWER 11 OF 372 USPATFULL on STN
TI Gene products differentially expressed in cancerous cells and their methods of use II

L5 ANSWER 12 OF 372 USPATFULL on STN
TI Production of monatin and monatin precursors

L5 ANSWER 13 OF 372 USPATFULL on STN
TI Method for producing L-amino acids by fermentation using bacteria having enhanced expression of xylose utilization genes

L5 ANSWER 14 OF 372 USPATFULL on STN
TI Signatures of ER status in breast cancer

L5 ANSWER 15 OF 372 USPATFULL on STN
TI Corynebacterium glutamicum genes encoding phosphoenolpyruvate: sugar phosphotransferase system proteins

L5 ANSWER 16 OF 372 USPATFULL on STN
TI Corynebacterium glutamicum genes encoding proteins involved in homeostasis and adaptation

L5 ANSWER 17 OF 372 USPATFULL on STN
TI Microorganism producing L-threonine having inactivated tyrR gene, method of producing the same and method of producing L-threonine using the microorganism

L5 ANSWER 18 OF 372 USPATFULL on STN
TI Corynebacterium glutamicum genes encoding regulatory proteins

L5 ANSWER 19 OF 372 USPATFULL on STN
TI Nucleotide sequence of the haemophilus influenzae Rd genome, fragments thereof, and uses thereof

L5 ANSWER 20 OF 372 USPATFULL on STN
TI Inbred corn line PHADA

L5 ANSWER 21 OF 372 USPATFULL on STN
TI Hybrid maize 37F73

L5 ANSWER 22 OF 372 USPATFULL on STN
TI Soybean variety XB25C05

L5 ANSWER 23 OF 372 USPATFULL on STN
TI Soybean variety XB43D05

L5 ANSWER 24 OF 372 USPATFULL on STN
TI Soybean variety XB39N05

L5 ANSWER 25 OF 372 USPATFULL on STN
TI Diamine derivatives of quinone and uses thereof

L5 ANSWER 26 OF 372 USPATFULL on STN
TI Corynebacterium glutamicum genes encoding novel proteins

L5 ANSWER 27 OF 372 USPATFULL on STN
TI Corynebacterium glutamicum genes encoding phosphoenolpyruvate: sugar phosphotransferase system proteins

L5 ANSWER 28 OF 372 USPATFULL on STN DUPLICATE 1
TI NUCLEOTIDE SEQUENCE OF THE HAEMOPHILUS INFLUENZAE RD GENOME, FRAGMENTS THEREOF, AND USES THEREOF

L5 ANSWER 29 OF 372 USPATFULL on STN DUPLICATE 2
TI Subfamily of RNA helicases which are modulators of the fidelity of translation termination and uses thereof

L5 ANSWER 30 OF 372 USPATFULL on STN
TI Translational profiling

L5 ANSWER 31 OF 372 USPATFULL on STN
TI Methods for monitoring multiple gene expression

L5 ANSWER 32 OF 372 USPATFULL on STN
TI Treatment of patients with multiple sclerosis based on gene expression changes in central nervous system tissues

L5 ANSWER 33 OF 372 USPATFULL on STN
TI Compounds for the modulation of the glycolysis enzyme and/or transaminase complex

L5 ANSWER 34 OF 372 USPATFULL on STN
TI Method for producing L-threonine using bacteria belonging to the genus Escherichia

L5 ANSWER 35 OF 372 USPATFULL on STN
TI Methods for in vitro expansion and transdifferentiation of human pancreatic acinar cells into insulin-producing cells

L5 ANSWER 36 OF 372 USPATFULL on STN
TI Process for producing l-amino acid and novel gene

L5 ANSWER 37 OF 372 USPATFULL on STN
TI Targets for therapeutic intervention identified in the mitochondrial proteome

L5 ANSWER 38 OF 372 USPATFULL on STN
TI Method for studying the effects of commensal microflora on mammalian intestine and treatments of gastrointestinal-associated disease based thereon

L5 ANSWER 39 OF 372 USPATFULL on STN
TI Molecular toxicology modeling

L5 ANSWER 40 OF 372 USPATFULL on STN
TI Staphylococcus aureus polynucleotides and sequences

L5 ANSWER 41 OF 372 USPATFULL on STN

TI Quorum sensing signaling in bacteria

L5 ANSWER 42 OF 372 USPATFULL on STN
TI Identification of dysregulated genes in patients with multiple sclerosis

L5 ANSWER 43 OF 372 USPATFULL on STN
TI Nucleotide sequence of the haemophilus influenza Rd genome, fragments thereof, and uses thereof

L5 ANSWER 44 OF 372 USPATFULL on STN
TI Rice promoters for regulation of plant expression

L5 ANSWER 45 OF 372 USPATFULL on STN
TI Markers of neuronal differentiation and morphogenesis

L5 ANSWER 46 OF 372 USPATFULL on STN
TI Breast cancer progression signatures

L5 ANSWER 47 OF 372 USPATFULL on STN
TI Corynebacterium glutamicum genes encoding proteins involved in homeostasis and adaptation

L5 ANSWER 48 OF 372 USPATFULL on STN
TI Corynebacterium glutamicum genes encoding stress, resistance and tolerance proteins

L5 ANSWER 49 OF 372 USPATFULL on STN
TI Complete genome sequence of the methanogenic archaeon, Methanococcus jannaschii

L5 ANSWER 50 OF 372 USPATFULL on STN
TI Nucleic acid sequences relating to Candida albicans for diagnostics and therapeutics

L5 ANSWER 51 OF 372 USPATFULL on STN
TI Nucleic acid molecule and encoded protein associated with sterol synthesis and metabolism

L5 ANSWER 52 OF 372 USPATFULL on STN
TI Corynebacterium glutamicum genes encoding proteins involved in membrane synthesis and membrane transport

L5 ANSWER 53 OF 372 USPAT2 on STN
TI Polynucleotides encoding polypeptides involved in amino acid biosynthesis in methylophilus methylotrophus

L5 ANSWER 54 OF 372 USPATFULL on STN DUPLICATE 3
TI Stress tolerant plants

L5 ANSWER 55 OF 372 USPATFULL on STN DUPLICATE 4
TI STAPHYLOCOCCUS AUREUS POLYNUCLEOTIDES AND SEQUENCES

L5 ANSWER 56 OF 372 USPATFULL on STN
TI Yeast proteome analysis

L5 ANSWER 57 OF 372 USPATFULL on STN
TI Libraries of expressible gene sequences

L5 ANSWER 58 OF 372 USPATFULL on STN
TI Expressed sequences of arabidopsis thaliana

L5 ANSWER 59 OF 372 USPATFULL on STN
TI Blood assessment of injury

L5 ANSWER 60 OF 372 USPATFULL on STN

TI Identification of modulatory molecules using inducible promoters

L5 ANSWER 61 OF 372 USPATFULL on STN
TI Libraries of expressible gene sequences

L5 ANSWER 62 OF 372 USPATFULL on STN
TI Corynebacterium glutamicum genes encoding metabolic pathway proteins

L5 ANSWER 63 OF 372 USPATFULL on STN
TI Method of modulating the efficiency of translation termination and degradation of aberrant mRNA involving a surveillance complex comprising human Upf1p,eucaryotic release factor 1 and eucaryotic release factor 3

L5 ANSWER 64 OF 372 USPATFULL on STN
TI Nucleic acids encoding 3-ketoacyl-ACP reductase from Moraxella catarrahalis

L5 ANSWER 65 OF 372 USPATFULL on STN
TI Subfamily of RNA helicases which are modulators of the fidelity of translation termination and uses thereof

L5 ANSWER 66 OF 372 USPATFULL on STN
TI Staphylococcus aureus polynucleotides and sequences

L5 ANSWER 67 OF 372 USPATFULL on STN
TI Nucleic acid sequences and expression system relating to Enterococcus faecium for diagnostics and therapeutics

L5 ANSWER 68 OF 372 USPATFULL on STN
TI Nucleic acid and amino acid sequences relating to Acinetobacter baumannii for diagnostics and therapeutics

L5 ANSWER 69 OF 372 USPATFULL on STN
TI Nucleotide sequence of the Haemophilus influenzae Rd genome, fragments thereof, and uses thereof

L5 ANSWER 70 OF 372 USPATFULL on STN
TI Nucleotide sequence of the Haemophilus influenzae Rd genome, fragments thereof, and uses thereof

L5 ANSWER 71 OF 372 USPATFULL on STN
TI Selected polynucleotide and polypeptide sequences of the methanogenic archaeon, methanococcus jannashii

L5 ANSWER 72 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN
TI Overexpression of **aspartate aminotransferase** in E. **coli** for biosynthesis of L-**threonine**

L5 ANSWER 73 OF 372 USPATFULL on STN
TI Lactobacillus rhamnosus polynucleotides, polypeptides and methods for using them

L5 ANSWER 74 OF 372 USPATFULL on STN
TI Compositions and methods for the therapy and diagnosis of ovarian cancer

L5 ANSWER 75 OF 372 USPATFULL on STN
TI ENTEROCOCCUS FAECALIS POLYNUCLEOTIDES AND POLYPEPTIDES

L5 ANSWER 76 OF 372 USPATFULL on STN
TI Method for producing threonine and isoleucine

L5 ANSWER 77 OF 372 USPATFULL on STN
TI Escherichia coli strains which over-produce L-thereonine and processes for the production of L-threonine by fermentation

L5 ANSWER 78 OF 372 USPATFULL on STN
TI Expressed sequences of arabidopsis thaliana

L5 ANSWER 79 OF 372 USPATFULL on STN
TI Expressed sequences of arabidopsis thaliana

L5 ANSWER 80 OF 372 USPATFULL on STN
TI METHOD OF MODULATING THE EFFICIENCY OF TRANSLATION TERMINATION AND DEGRADATION OF ABERRANT MRNA INVOLVING A SURVEILLANCE COMPLEX COMPRISING HUMAN UPF1P, EUCARYOTIC RELEASE FACTOR 1 AND EUCARYOTIC RELEASE FACTOR 3

L5 ANSWER 81 OF 372 USPATFULL on STN
TI Polynucleotides and polypeptides derived from corn ear

L5 ANSWER 82 OF 372 USPATFULL on STN
TI Genomic sequence of Rhizobium sp. NGR 234 symbiotic plasmid

L5 ANSWER 83 OF 372 USPATFULL on STN
TI Selected Haemophilus influenzae Rd polynucleotides and polypeptides

L5 ANSWER 84 OF 372 USPATFULL on STN
TI Computer readable genomic sequence of Haemophilus influenzae Rd, fragments thereof, and uses thereof

L5 ANSWER 85 OF 372 USPAT2 on STN
TI Methods for monitoring multiple gene expression

L5 ANSWER 86 OF 372 USPAT2 on STN
TI Genome DNA of bacterial symbiont of aphids

L5 ANSWER 87 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN
TI Quantitative chimeric analysis of six specificity determinants that differentiate Escherichia coli aspartate from tyrosine aminotransferase

L5 ANSWER 88 OF 372 USPATFULL on STN
TI Methods for producing L-valine and L-leucine

L5 ANSWER 89 OF 372 USPATFULL on STN
TI Transaminase biotransformation process

L5 ANSWER 90 OF 372 USPATFULL on STN DUPLICATE 5
TI Method for producing L-lysine

L5 ANSWER 91 OF 372 USPATFULL on STN
TI Method for treating Mycobacterium tuberculosis

L5 ANSWER 92 OF 372 USPATFULL on STN
TI L-isoleucine-producing bacterium and method for preparing L-isoleucine through fermentation

L5 ANSWER 93 OF 372 USPATFULL on STN
TI Methods for producing L-valine and L-leucine

L5 ANSWER 94 OF 372 USPATFULL on STN
TI Aptamers specific for biomolecules and methods of making

L5 ANSWER 95 OF 372 CABA COPYRIGHT 2006 CABI on STN
TI Amino acid changes in plasma and liver of cobalt-deficient cattle.

L5 ANSWER 96 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 6
TI Growth rate-related regulation of the ilvGMEDA operon of Escherichia coli K-12 is a consequence of the polar frameshift mutation in the ilvG gene of this strain

L5 ANSWER 97 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 7

TI 4-O-phosphoryl-L-threonine, a substrate of the pdxC(serC) gene product involved in vitamin B6 biosynthesis

L5 ANSWER 98 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN
TI Redesign of the substrate specificity of Escherichia coli aspartate aminotransferase to that of Escherichia coli tyrosine aminotransferase by homology modeling and site-directed mutagenesis

L5 ANSWER 99 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 8
TI Multilocus enzyme typing of human and animal strains of Clostridium perfringens

L5 ANSWER 100 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN
TI Escherichia coli aromatic amino acid aminotransferase: Characterization and comparison with aspartate aminotransferase

=> d ti l5 101-200

L5 ANSWER 101 OF 372 USPATFULL on STN
TI Method for activating cellulosic membrane, activated cellulosic membrane, method of fixing physiologically active substance on the activated cellulosic membrane and physiologically active substance-fixed membrane

L5 ANSWER 102 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN
TI Regulation of L-leucine and L-isoleucine biosynthesis

L5 ANSWER 103 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN
TI Pre-steady-state kinetics of Escherichia coli aspartate aminotransferase catalyzed reactions and thermodynamic aspects of its substrate specificity

L5 ANSWER 104 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN
TI Process for producing amino acids

L5 ANSWER 105 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN
TI Cysteine starvation, isoleucyl-tRNAIle, and the regulation of the ilvGEDA operon of Escherichia coli

L5 ANSWER 106 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN
TI Regulation of the ilv operon in Escherichia coli K-12. Role of Thr and Ile

L5 ANSWER 107 OF 372 CABA COPYRIGHT 2006 CABI on STN
TI Note on rumen microbial transaminases at different hours after feeding of cattle and buffalo on varied non-protein nitrogen and soluble carbohydrates.

L5 ANSWER 108 OF 372 USPATFULL on STN
TI Specific binding assay with an enzyme modulator as a labeling substance

L5 ANSWER 109 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 9
TI Microbial transaminase activities and their relationship with bovine rumen metabolites

L5 ANSWER 110 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 10
TI Microbial production of L-threonine. III. Mechanism of L-threonine production in Escherichia coli auxotrophs

L5 ANSWER 111 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN
TI Metabolism of valine and isoleucine in Escherichia coli. XVII. Role of induction in the depression of acetohydroxy acid isomeroreductase

L5 ANSWER 112 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN
TI The occurrence of a wide variety of transaminases in bacteria

L5 ANSWER 367 OF 372 GENBANK® COPYRIGHT 2006 on STN

TITLE (TI): The genome sequence of the thermoacidophilic scavenger Thermoplasma acidophilum
TITLE (TI): Direct Submission

L5 ANSWER 368 OF 372 GENBANK® COPYRIGHT 2006 on STN

TITLE (TI): The genome sequence of the thermoacidophilic scavenger Thermoplasma acidophilum
TITLE (TI): Direct Submission

L5 ANSWER 369 OF 372 GENBANK® COPYRIGHT 2006 on STN

TITLE (TI): The genome sequence of the food-borne pathogen Campylobacter jejuni reveals hypervariable sequences
TITLE (TI): Direct Submission

L5 ANSWER 370 OF 372 GENBANK® COPYRIGHT 2006 on STN

TITLE (TI): The genome sequence of the food-borne pathogen Campylobacter jejuni reveals hypervariable sequences
TITLE (TI): Direct Submission

L5 ANSWER 371 OF 372 GENBANK® COPYRIGHT 2006 on STN

TITLE (TI): Archaeal homologs of eukaryotic methylation guide small nucleolar RNAs: lessons from the Pyrococcus genomes
TITLE (TI): Genome evolution at the genus level: comparison of three complete genomes of hyperthermophilic archaea
TITLE (TI): An integrated analysis of the genome of the hyperthermophilic archaeon Pyrococcus abyssi
TITLE (TI): Direct Submission

L5 ANSWER 372 OF 372 GENBANK® COPYRIGHT 2006 on STN

TITLE (TI): Analysis of 45 kb of DNA located at the left end of the chlorella virus PBCV-1 genome
TITLE (TI): Analysis of 43 kb of the Chlorella virus PBCV-1 330-kb genome: map positions 45 to 88
TITLE (TI): Analysis of 94 kb of the chlorella virus PBCV-1 330-kb genome: map positions 88 to 182
TITLE (TI): Analysis of 76 kb of the chlorella virus PBCV-1 330-kb genome: map positions 182 to 258
TITLE (TI): Analysis of 74 kb of DNA located at the right end of the 330-kb chlorella virus PBCV-1 genome
TITLE (TI): Chlorella virus PBCV-1 encodes a functional homospermidine synthase
TITLE (TI): Characterization of a beta-1,3-glucanase encoded by chlorella virus PBCV-1
TITLE (TI): Hyaluronan synthesis in virus PBCV-1 infected, chlorella-like green algae
TITLE (TI): Direct Submission
TITLE (TI): Direct Submission
TITLE (TI): Direct Submission
TITLE (TI): Direct Submission
TITLE (TI): Direct Submission
TITLE (TI): Direct Submission
TITLE (TI): Direct Submission

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L5 ANSWER 1 OF 372 USPATFULL on STN
ACCESSION NUMBER: 2006:104816 USPATFULL

TITLE: Method for producing L-amino acids using bacteria of the Enterobacteriaceae family

INVENTOR(S): Rybak, Konstantin Vyacheslavovich, Moscow, RUSSIAN FEDERATION
Slivinskaya, Ekaterina Aleksandrovna, Moscow, RUSSIAN FEDERATION
Savrasova, Ekaterina Alekseevna, Moscow, RUSSIAN FEDERATION
Akhverdian, Valeriy Zavenovich, Moscow, RUSSIAN FEDERATION
Klyachko, Elena Vitalievna, Moscow, RUSSIAN FEDERATION
Mashko, Sergei Vladimirovich, Moscow, RUSSIAN FEDERATION
Doroshenko, Vera Georgievna, Moscow, RUSSIAN FEDERATION
Airikh, Larisa Gotlibovna, Moscow region, RUSSIAN FEDERATION
Leonova, Tatyana Viktorovna, Moscow, RUSSIAN FEDERATION
Gusyatiner, Mikhail Markovich, Moscow, RUSSIAN FEDERATION
Voroshilova, Elvira Borisovna, Moscow, RUSSIAN FEDERATION
Kozlov, Yury Ivanovich, Moscow, RUSSIAN FEDERATION
Hara, Yoshihiko, Kawasaki-shi, JAPAN
Ueda, Takuji, Kawasaki-shi, JAPAN

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2006088919	A1	20060427	
APPLICATION INFO.:	US 2005-247138	A1	20051012	(11)

	NUMBER	DATE	
PRIORITY INFORMATION:	RU 2004-130954	20041022	
	US 2005-673807P	20050422	(60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: CERMAK & KENEALY LLP, ACS LLC, 515 EAST BRADDOCK ROAD, SUITE B, ALEXANDRIA, VA, 22314, US
NUMBER OF CLAIMS: 26
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 1 Drawing Page(s)
LINE COUNT: 1617

AB There is disclosed a method for producing L-amino acid, for example L-threonine, L-lysine, L-histidine, L-phenylalanine, L-arginine or L-glutamic acid, using a bacterium of the Enterobacteriaceae family, wherein the bacterium has been modified to enhance an activity of D-xylose permease.

L5 ANSWER 13 OF 372 USPATFULL on STN
ACCESSION NUMBER: 2005:247716 USPATFULL
TITLE: Method for producing L-amino acids by fermentation using bacteria having enhanced expression of xylose utilization genes

INVENTOR(S): Marchenko, Aleksey Nikolaevich, Moscow, RUSSIAN FEDERATION
Benevolensky, Sergey Vladimirovich, Moscow, RUSSIAN FEDERATION
Klyachko, Elena Vitalievna, Moscow, RUSSIAN FEDERATION
Kozlov, Yuri Ivanovich, Moscow, RUSSIAN FEDERATION
Voroshilova, Elvira Borisovna, Moscow, RUSSIAN FEDERATION
Gusyatiner, Mikhail Markovich, Moscow, RUSSIAN FEDERATION

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005214911	A1	20050929
APPLICATION INFO.:	US 2005-79392	A1	20050315 (11)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 2005-59686, filed on 17 Feb 2005, PENDING

	NUMBER	DATE
PRIORITY INFORMATION:	RU 2004-107548	20040316
	RU 2005-106720	20050314
	US 2004-610545P	20040917 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: CERMAK & KENEALY LLP, ACS LLC, 515 EAST BRADDOCK ROAD, SUITE B, ALEXANDRIA, VA, 22314, US
NUMBER OF CLAIMS: 20
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 1 Drawing Page(s)
LINE COUNT: 2260
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method for producing an L-amino acid, such as L-histidine, L-threonine, L-lysine, L-glutamic acid, and L-tryptophan, using bacterium belonging to the genus Escherichia which has increased expression of genes, such as those of the xylABFGHR locus, which encode the xylose utilization enzymes, is disclosed. The method includes cultivating the L-amino acid producing bacterium in a culture medium containing xylose, and collecting the L-amino acid from the culture medium.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 17 OF 372 USPATFULL on STN
ACCESSION NUMBER: 2005:202694 USPATFULL
TITLE: Microorganism producing L-threonine having inactivated tyrR gene, method of producing the same and method of producing L-threonine using the microorganism
INVENTOR(S): Park, Young Hoon, Seongnam-city, KOREA, REPUBLIC OF
Lee, Byoung Choon, Seoul, KOREA, REPUBLIC OF
Park, Jae Yong, Gunpo-city, KOREA, REPUBLIC OF
Cho, Kwang Myung, Icheon-city, KOREA, REPUBLIC OF
Shin, Yong Uk, Seoul, KOREA, REPUBLIC OF
PATENT ASSIGNEE(S): CJ CORPORATION, Seoul, KOREA, REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005176113	A1	20050811
APPLICATION INFO.:	US 2005-49844	A1	20050204 (11)

	NUMBER	DATE
PRIORITY INFORMATION:	KR 2004-7528	20040205

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: ROTHWELL, FIGG, ERNST & MANBECK, P.C., 1425 K STREET, N.W., SUITE 800, WASHINGTON, DC, 20005, US
NUMBER OF CLAIMS: 12
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Page(s)
LINE COUNT: 504
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Provided are a microorganism capable of producing L-threonine and having an inactivated tyrR gene, a method of producing the same and a method of producing L-threonine using the microorganism. The microorganism can be

used to produce L-threonine in high yield.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 36 OF 372 USPATFULL on STN
ACCESSION NUMBER: 2004:158629 USPATFULL
TITLE: Process for producing l-amino acid and novel gene
INVENTOR(S): Sugimoto, Masakazu, Kawasaki-shi, JAPAN
Nakai, Yuta, Kawasaki-shi, JAPAN
Ito, Hisao, Kawasaki-shi, JAPAN
Kurahashi, Osamu, Kawasaki-shi, JAPAN

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2004121428	A1	20040624	
APPLICATION INFO.:	US 2002-148898	A1	20020619	(10)
	WO 2000-JP9164		20001222	

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1999-368096	19991224

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C., 1940 DUKE STREET, ALEXANDRIA, VA, 22314
NUMBER OF CLAIMS: 10
EXEMPLARY CLAIM: 1
LINE COUNT: 1205
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A gene coding for fructose phosphotransferase is introduced into a coryneform bacterium having an ability to produce an L-amino acid such as L-lysine or L-glutamic acid to enhance fructose phosphotransferase activity and thereby improve the L-amino acid producing ability.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 53 OF 372 USPAT2 on STN
ACCESSION NUMBER: 2004:221218 USPAT2
TITLE: Polynucleotides encoding polypeptides involved in amino acid biosynthesis in methylophilus methylotrophus
INVENTOR(S): Usuda, Yoshihiro, Kawasaki, JAPAN
Nishio, Yousuke, Kawasaki, JAPAN
Yasueda, Hisashi, Kawasaki, JAPAN
Sugimoto, Shinichi, Kawasaki, JAPAN
PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Tokyo, JAPAN (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 7029893	B2	20060418	
APPLICATION INFO.:	US 2003-375039		20030228	(10)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Hutson, Richard
LEGAL REPRESENTATIVE: Cermak & Kenealy,LLP, Cermak, Shelly Guest
NUMBER OF CLAIMS: 20
EXEMPLARY CLAIM: 1
LINE COUNT: 4027
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides polypeptides and polynucleotides involved in amino acid biosynthesis in Methylophilus methylotrophus and methods of producing amino acids in microorganisms having enhanced or attenuated expression of these polypeptides and/or polynucleotides.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 72 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:697069 CAPLUS
DOCUMENT NUMBER: 139:225535
TITLE: Overexpression of **aspartate aminotransferase** in E. **coli** for biosynthesis of L-**threonine**
INVENTOR(S): Akhverdian, Valery Zavenovich; Savrasova, Ekaterina Alekseevna; Kaplan, Alla Markovna; Lobanov, Andrey Olegovich; Kozlov, Yuri Ivanovich
PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Japan
SOURCE: PCT Int. Appl., 26 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003072786	A1	20030904	WO 2003-JP2067	20030225
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
RU 2244007	C2	20050110	RU 2002-104983	20020227
AU 2003211697	A1	20030909	AU 2003-211697	20030225
EP 1479775	A1	20041124	EP 2003-707063	20030225
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1639341	A	20050713	CN 2003-804683	20030225
US 2004132165	A1	20040708	US 2003-673786	20030930

PRIORITY APPLN. INFO.: RU 2002-104983 A 20020227
WO 2003-JP2067 W 20030225

AB This invention provides a method of biosynthesis of L-threonine in E. coli. The enhancement of biosynthesis of **threonine** was achieved by overexpression of **aspartate aminotransferase** in low copy number plasmid containing E. **coli**. The DNA and protein sequences of E. coli aspartate aminotransferase were disclosed.
REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 76 OF 372 USPATFULL on STN
ACCESSION NUMBER: 2002:206183 USPATFULL
TITLE: Method for producing threonine and isoleucine
INVENTOR(S): Miyata, Yuri, Kawasaki-shi, JAPAN
Nakai, Yuta, Kawasaki-shi, JAPAN
Nakanishi, Kazuo, Kawasaki-shi, JAPAN
Ito, Hisao, Kawasaki-shi, JAPAN
Kojima, Hiroyuki, Kawasaki-shi, JAPAN
Kurahashi, Osamu, Kawasaki-shi, JAPAN
PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Chuo-ku, JAPAN (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2002110876	A1	20020815	
APPLICATION INFO.:	US 2001-922732	A1	20010807	(9)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2000-244921	20000811

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT PC, FOURTH FLOOR, 1755 JEFFERSON DAVIS HIGHWAY, ARLINGTON, VA, 22202
NUMBER OF CLAIMS: 8
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 9 Drawing Page(s)
LINE COUNT: 687
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Threonine or isoleucine is be produced by culturing a bacterium belonging to the genus Escherichia, which has an ability to produce L-threonine or L-isoleucine, and in which intracellular phosphoenolpyruvate carboxylase activity and transhydrogenase activity are enhanced, in a medium to produce and accumulate threonine or isoleucine in the medium, and collecting the threonine or isoleucine from the medium.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 98 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1995:860383 CAPLUS
DOCUMENT NUMBER: 123:279656
TITLE: Redesign of the substrate specificity of Escherichia coli aspartate aminotransferase to that of Escherichia coli tyrosine aminotransferase by homology modeling and site-directed mutagenesis
AUTHOR(S): Onuffer, James J.; Kirsch, Jack F.
CORPORATE SOURCE: Dep. of Molecular and Cell Biology, Univ. of California, Berkeley, CA, 94720, USA
SOURCE: Protein Science (1995), 4(9), 1750-7
CODEN: PRCIEI; ISSN: 0961-8368
PUBLISHER: Cambridge University Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Although several high-resolution x-ray crystallog. structures have been determined for Escherichia coli aspartate aminotransferase (eAATase), efforts to crystallize E. coli tyrosine aminotransferase (eTATase) have been unsuccessful. Sequence alignment analyses of eTATase and eAATase show 43% sequence identity and 72% sequence similarity, allowing for conservative substitutions. The high similarity of the two sequences indicates that both enzymes must have similar secondary and tertiary structures. Six active site residues of eAATase were targeted by homol. modeling as being important for aromatic amino acid reactivity with eTATase. Two of these positions (ZThr 109 and Asn 297) are invariant in all known aspartate aminotransferase enzymes, but differ in eTAT-ase (Ser 109 and Ser 297). The other four positions (Val 39, Lys 41, Thr 47, and Asn 69) line the active site pocket of eAATase and are replaced by amino acids with more hydrophobic side chains in eTATase (Leu 39, Tyr 41, Ile 47, and Leu 69). These six positions in eAATase were mutated by site-directed mutagenesis to the corresponding amino acids found in eTATase to redesign the substrate specificity of eAATase to that of eTATase. Five combinations of the individual mutations were obtained from mutagenesis reactions. The redesignated eAATase were mutated containing all six mutations (Hex) displays second-order rate consts. for the transamination of aspartate and phenylalanine that are within an order of magnitude of those observed for eTATase. Thus, the reactivity of eAATase with phenylalanine was increased by over three orders of magnitude without sacrificing the high transamination activity with aspartate observed for both enzymes. Examination of the dissociation consts. of the dicarboxylate inhibitor maleate and the aromatic

inhibitor hydrocinnamate with the mutant constructs demonstrates that the T109S an N297S mutations are specific determinants for high-affinity association of nonpolar ligands, whereas the other four mutations have the general effect of decreasing the dissociation consts. for both dicarboxylate and nonpolar ligands. The latter four changes presumably exert their general effect by stabilizing the closed conformation of the enzyme that is observed in x-ray crystals structures of eAATase complexes with dicarboxylate ligands.

L5 ANSWER 100 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1994:26034 CAPLUS
DOCUMENT NUMBER: 120:26034
TITLE: Escherichia coli aromatic amino acid aminotransferase: Characterization and comparison with aspartate aminotransferase
AUTHOR(S): Hayashi, Hideyuki; Inoue, Katsura; Nagata, Toshihito; Kuramitsu, Seiki; Kagamiyama, Hiroyuki
CORPORATE SOURCE: Dep. Biochem., Osaka Med. Coll., Takatsuki, 569, Japan
SOURCE: Biochemistry (1993), 32(45), 12229-39
CODEN: BICHAW; ISSN: 0006-2960
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Aromatic amino acid aminotransferase (ArAT) from Escherichia coli was overexpressed in E. coli cells, purified, and characterized. The enzyme was similar to aspartate aminotransferase (AspAT) of E. coli in many aspects, such as gross protein structure and spectroscopic properties. The reactions of pyridoxal 5'-phosphate-form ArAT with amino acids and pyridoxamine 5'-phosphate-form ArAT with oxo acids were investigated using stopped-flow spectrophotometric techniques. The kinetic parameters for these half reactions could excellently explain the ArAT-catalyzed overall transmission reactions at pH 8.0. Reactions of ArAT with aspartate and tryptophan which had been deuterated at position 2 showed isotope effects of 2.5 and 6.0 in the kcat values of the high-reactions, showing that the proton-transfer step is at least partially rate-limiting for these reactions. ArAT and AspAT showed overlapping substrate specificity. Both ArAT and AspAT were active toward dicarboxylic substrates. ArAT showed, however, 103-fold higher activity toward aromatic substrates than AspAT. This high activity toward aromatic substrates was in part ascribed to the active site hydrophobicity of ArAT, which was suggested to be about 1.4 times as large as that of AspAT. In addition to dicarboxylic substrate analogs, aromatic substrate analogs such as carboxylic acids, 2-Me amino acids, and 3-hydroxy amino acids caused characteristic changes in the absorption spectra of ArAT, while these aromatic analogs did not significantly change the spectra of AspAT. In particular, the erythro-3-hydroxy analogs of phenylalanine and aspartate caused a prominent absorption of ArAT at around 500 nm, which is generally ascribed to the accumulation of quinonoid intermediates. The threo forms of these 3-hydroxy analogs acted as substrates for ArAT. The erythro and threo forms of 3-hydroxyaspartate reacted with AspAT similarly as they reacted with ArAT; however, both forms of 3-phenylserine were poor substrates for AspAT, although phenylalanine was a fairly good substrate for AspAT. The observations on the 2 erythro-3-hydroxy amino acids show the similar orientation of these analogs in the active site of ArAT, probably through a hydrogen-bonding network involving the hydroxy groups of the analogs and Tyr70, and suggests that the aromatic binding pocket is near or even overlaps the side-chain-carboxylate-binding site for dicarboxylic substrates.

L5 ANSWER 104 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1987:453510 CAPLUS
DOCUMENT NUMBER: 107:53510
TITLE: Process for producing amino acids
INVENTOR(S): Katsumata, Ryoichi; Mizukami, Toru; Oka, Tetsuo
PATENT ASSIGNEE(S): Kyowa Hakko Kogyo Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 27 pp.
CODEN: EPXXDW

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 219027	A2	19870422	EP 1986-113808	19861006
EP 219027	A3	19880921		
R: DE, FR, GB				
JP 62079788	A2	19870413	JP 1985-221424	19851004
JP 06102028	B4	19941214		

PRIORITY APPLN. INFO.: JP 1985-221424 A 19851004

AB A process for increasing the production of L-lysine, L-**threonine**, and L-isoleucine by fermentation of Corynebacteria or **Brevibacteria** transformed with plasmids containing **aspartate** semialdehyde dehydrogenase (ASD) or **aspartate aminotransferase** (AST) genes from the same microorganisms is described. Corynebacterium glutamicum RH6 produced 14.8 mg L-lysine/mL culture during fermentation, and 17.7 mg/mL after transformation with pAsD2. Following transformation with pAT1 L-lysine production increased from 14.8 to 16.8 mg/mL.

L5 ANSWER 106 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1983:502048 CAPLUS
DOCUMENT NUMBER: 99:102048
TITLE: Regulation of the ilv operon in Escherichia coli K-12. Role of Thr and Ile
AUTHOR(S): Okada, Toshihiko
CORPORATE SOURCE: Dep. Biochem., Kanazawa Med. Univ., Uchinada, Japan
SOURCE: Japanese Journal of Genetics (1983), 58(1), 59-64
CODEN: IDZAAW; ISSN: 0021-504X
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Under nutrient shift-down conditions, **threonine** (Thr), α-ketobutyrate, and isoleucine (Ile) derepressed the formation of acetohydroxy acid synthase and isomeroreductase, but not that of **transaminase** B or **threonine** deaminase, in E. **coli**. Leucine and(or) valine, however, reversed the isoleucine-induced derepression. In the absence of isoleucine, leucine and valine completely inhibited the derepression of the enzymes after shift-down. Apparently, isoleucine is necessary for the efficient formation of acetohydroxy acid synthase isoenzymes I (encoded by gene ilvB) and III (encoded by gene ilv HI).

L5 ANSWER 110 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 10
ACCESSION NUMBER: 1974:93041 CAPLUS
DOCUMENT NUMBER: 80:93041
TITLE: Microbial production of L-threonine. III. Mechanism of L-threonine production in Escherichia coli auxotrophs
AUTHOR(S): Hirakawa, Tamotsu; Watanabe, Kiyoshi
CORPORATE SOURCE: Biochem. Res. Lab., Kanegafuchi Chem. Ind. Co., Ltd., Takasago, Japan
SOURCE: Agricultural and Biological Chemistry (1974), 38(1), 77-84
CODEN: ABCHA6; ISSN: 0002-1369
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In a threonine producer E. coli, strain Number 15 (Met-), the lysine- or methionine-sensitive aspartokinase which is insensitive to feedback inhibition of L-threonine was depressed .apprx.5-fold when the auxotroph was cultured in the presence of a limited amount of methionine. The formation of asparatokinase, threonine deaminase, and transaminase B were increased in the presence of L-valine, whereas the presence of L-isoleucine appreciably repressed aspartokinase, threonine deaminase, and

transaminase B in the strain Number 234 (Met-, Val-) and strain T-3 (Met-, Val-, Ileu-).

=> d kwic l5 104 110

L5 ANSWER 104 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN
AB A process for increasing the production of L-lysine, L-**threonine**, and L-isoleucine by fermentation of Corynebacteria or **Brevibacteria** transformed with plasmids containing **aspartate** semialdehyde dehydrogenase (ASD) or **aspartate aminotransferase** (AST) genes from the same microorganisms is described. Corynebacterium glutamicum RH6 produced 14.8 mg L-lysine/mL culture during fermentation, and 17.7. . .
IT 56-87-1P, L-Lysine, preparation 72-19-5P, L-**Threonine**, preparation 73-32-5P, L-Isoleucine, preparation
RL: PREP (Preparation)
(manufacture of, Corynebacterium and **Brevibacterium** transformed with plasmids containing **aspartate aminotransferase** and aspartic semialdehyde dehydrogenase genes for)

L5 ANSWER 110 OF 372 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 10
IT 72-18-4, biological studies
RL: BIOL (Biological study)
(**threonine** deaminase and **transaminase** B inhibition by, in **Escherichia coli**)

=> d his full

(FILE 'HOME' ENTERED AT 11:46:03 ON 12 MAY 2006)

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, ANTE, AQUALINE, AQUASCI, BIOENG, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CAPLUS, CEABA-VTB, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DISSABS, DRUGB, DRUGMONOG2, DRUGU, EMBAL, EMBASE, ...' ENTERED AT 11:46:16 ON 12 MAY 2006
SEA (ASPC? OR (ASPARTAT?(S)AMINOTRANSFERAS?) OR TRANSAMINAS?) A

4	FILE AGRICOLA
7	FILE AQUASCI
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                9   FILE WPINDEX
                1   FILE NLDB
L1               QUE (ASPC? OR (ASPARTAT?(S) AMINOTRANSFERAS?) OR TRANSAMINAS?)
                 AND THREONI?
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                 D RANK

     FILE 'USPATFULL, GENBANK, CAPLUS, MEDLINE, USPAT2, TOXCENTER, BIOSIS,
     EMBASE, SCISEARCH, CABA' ENTERED AT 11:49:09 ON 12 MAY 2006
L2          3370 SEA (ASPC? OR (ASPARTAT?(S) AMINOTRANSFERAS?) OR TRANSAMINAS?)
                 AND THREONI?
L3           832 SEA (ASPC? OR (ASPARTAT?(S) AMINOTRANSFERAS?) OR TRANSAMINAS?)
                 (S) THREONI?
L4           390 SEA L3(S)(COLI? OR ESCHERICH? OR ENTEROBAC? OR GLUTAMICU? OR
                 CORYNEFOR? OR BACTERI? OR BREVIBACTER?)
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     FILE USPATFULL
     FILE COVERS 1971 TO PATENT PUBLICATION DATE: 11 May 2006 (20060511/PD)
     FILE LAST UPDATED: 11 May 2006 (20060511/ED)
     HIGHEST GRANTED PATENT NUMBER: US7043760
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     USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2006


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